

REMARKS

The Office Action of April 23, 2007, has been received and reviewed.

Claims 23-27, 29-35, 40-51, and 53-64 are currently pending and under consideration in the above-referenced application, each standing rejected.

Reconsideration of the above-referenced application is respectfully requested.

Supplemental Information Disclosure Statement

Please note that a Supplemental Information Disclosure Statement was filed in the above-referenced application on April 9, 2007, but that the undersigned attorney has not yet received any indication that the references cited in the Supplemental Information Disclosure Statement have been considered in the above-referenced application. It is respectfully requested that the references cited in the Supplemental Information Disclosure Statement of April 9, 2007, be considered and made of record in the above-referenced application and that an initialed copy of the Form PTO/SB/08A that accompanied that Supplemental Information Disclosure Statement be returned to the undersigned attorney as evidence of such consideration.

Rejections under 35 U.S.C. § 112, First Paragraph

Claims 23 and 45 have been rejected for purportedly failing to meet the written description requirement of the first paragraph of 35 U.S.C. § 112.

Independent claims 23 and 45 are both drawn to methods for assembling semiconductor devices. Both of these claims recite that, at some point during the process, a second semiconductor device is entirely supported by discrete conductive elements that are located over portions of a first semiconductor device.

The as-filed specification, at several locations (*see, e.g.*, paragraphs [0015] and [0059]; FIG. 14), provides support for processes in which a semiconductor device is entirely supported by intermediate conductive elements that are located at least partially over another semiconductor device. As the as-filed specification describes at least one embodiment of the subject matter recited in independent claims 23 and 45, it is respectfully submitted that both of these claims comply with the written description requirement of the first paragraph of 35 U.S.C. § 112.

It is respectfully requested that the 35 U.S.C. § 112, first paragraph, rejections of independent claims 23 and 45 be withdrawn, and that both of these claim be allowed.

Rejections under 35 U.S.C. § 112, Second Paragraph

Claims 23 and 45 have also been rejected under 35 U.S.C. § 112, second paragraph, for reciting subject matter that is allegedly indefinite. Specifically, the Office asserts, “it is confusing to understand how the discrete elements (wires) can support the entire weight of the semiconductor device since this aspect is not disclosed...” Office Action of April 16, 2007, page 3.

Again, the as-filed specification does disclose method embodiments in which a semiconductor device is entirely supported by discrete conductive elements that are located at least partially over another semiconductor device. *See, e.g.*, paragraphs [0015] and [0059]; FIG. 14. Regardless of the embodiments disclosed in the as-filed specification, it is respectfully submitted that one of ordinary skill in the art would readily understand the scope of independent claims 23 and 45 from the plain language recited in these claims.

Withdrawal of the 35 U.S.C. § 112, second paragraph, rejections of claims 23 and 45 is respectfully requested, as is the allowance of both of these claims.

Rejections under 35 U.S.C. § 102

Claims 23, 24, 29, 30, 33, 40, 45, 46, 49, 50, 53, 59 and 61-64 stand rejected under 35 U.S.C. § 102(e) for being drawn to subject matter that is allegedly anticipated by the subject matter described in U.S. Patent 6,400,007 to Wu et al. (hereinafter “Wu”).

A claim is anticipated only if each and every element, as set forth in the claim, is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claim 23 recites, among other things, “positioning a second semiconductor device at least partially over [a] first semiconductor device, a back side of the second

semiconductor device *resting upon at least some . . . discrete conductive elements and being entirely supported thereby . . .*” (emphasis supplied). Independent claim 45 recites, among other things, “positioning a second semiconductor device at least partially over [a] first semiconductor device and on at least some discrete conductive elements . . . such that *the second semiconductor device is entirely supported by the at least some discrete conductive elements . . .*”

It has been asserted that FIG. 4 of Wu shows wires 32 supporting the second semiconductor die 34. The description of Wu is limited to disposing wires 32 and glue over a lower semiconductor device 28 before positioning an upper semiconductor device 34 thereover. *See, e.g.*, col. 3, lines 27-43. In view of the conclusion by the Board of Patent Appeals & Interferences (hereinafter “the Board”), as set forth at page 5 of its Decision of September 12, 2006, that, in the method described in Wu, both bond wires *and* glue support the upper semiconductor device, it is apparent that the bond wires do not *entirely* support the semiconductor device positioned thereover, as would be required for Wu to anticipate each and every element of both independent claim 23 and independent claim 45. It is, therefore, respectfully submitted that, under 35 U.S.C. § 102(e), independent claims 23 and 45 are both drawn to subject matter that is allowable over the subject matter described in Wu.

Each of claims 24, 29, 30, 33, and 40 is allowable, among other reasons, for depending either directly or indirectly from claim 23, which is allowable.

Each of claims 46, 49, 50, 53, 59, and 61-64 is allowable, among other reasons, for depending either directly or indirectly from claim 45, which is allowable.

In view of the foregoing, it is respectfully requested that the 35 U.S.C. § 102(e) rejections of claims 23, 24, 29, 30, 33, 40, 45, 46, 49, 50, 53, 59, and 61-64 be withdrawn, and that each of these claims be allowed.

Rejections under 35 U.S.C. § 103(a)

Claims 25-27, 31, 32, 34, 35, 41-44, 47, 48, 51, 54-58, and 60 stand rejected under 35 U.S.C. § 103(a).

The standard for establishing and maintaining a rejection under 35 U.S.C. § 103(a) is set forth in M.P.E.P. § 706.02(j), which provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Wu in View of Lee

Claims 25, 26, 31, 34, 35, 41-44, 47, 51, 54-58, and 60 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter that is assertedly unpatentable over the subject matter taught in Wu, in view of teachings from U.S. Patent 6,388,313 to Lee et al. (hereinafter "Lee").

Claims 25, 26, 31, 34, 35, and 41-44 are each allowable, among other reasons, for depending indirectly from claim 23, which is allowable.

Wu in View of Shim

Claims 27, 32 and 48 stand rejected under 35 U.S.C. § 103(a) for being directed to subject matter that is purportedly unpatentable over the teachings of Wu, in view of teachings from U.S. Patent 6,531,784 to Shim et al. (hereinafter "Shim").

Claims 27 and 32 are both allowable, among other reasons, for depending indirectly from claim 23, which is allowable.

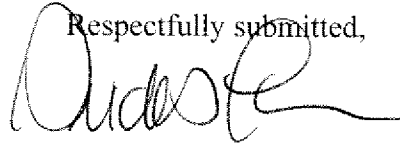
Claim 48 is allowable, among other reasons, for depending indirectly from claim 45, which is allowable.

Withdrawal of the 35 U.S.C. § 103(a) rejections of claims 25-27, 31, 32, 34, 35, 41-44, 47, 48, 51, 54-58, and 60 is respectfully requested, as is the allowance of each of these claims.

CONCLUSION

It is respectfully submitted that each of claims 23-27, 29-35, 40-51, and 53-64 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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